

Date: April 3, 2015
To: Raj Singhvi, EPA/ERT Work Assignment Manager
From: Deborah Killeen, SERAS QA/QC Officer *[Handwritten signature]*
Subject: Preliminary Results for St. John Methyl Bromide Response, WA# SERAS-270

Attached please find the preliminary results of the above referenced project for the following samples:

Chain(s) of Custody No.: No: 06833, 06834, 06835 and 06828
Analyses: VOC + TICs (SUMMA Canister)
No. of Samples: 7 Samples
Matrix: Air

Comments:

cc Central File: WA #SERAS-270
Task Leader: Dubois
Analyst: G. Ball



Table 1.1a Result of the Analysis for VOC (ppbv) in Air
 WA# SERAS-270, St. John Methyl Bromide Response

Method: SERAS SOP#1814

Analyte	N/A		R504001-04		R504001-01		R504001-05	
	Results ppbv	RL ppbv	55115 TRIP		Results ppbv	RL ppbv	55116 (A) Background	
			Sample Number PSM Method Blank	Sample Location N/A			Sample Number 0401115-03	Sample Location N/A
Propylene	U	0.200		U	0.200	0.234	0.200	1.28
Dichlorodifluoromethane	U	0.0200		U	0.0200	0.321	0.0200	0.530
Chloromethane	U	0.0200		U	0.0200	0.776	0.0200	0.883
Dichlorotetrafluoroethane	U	0.0200		U	0.0200	U	0.0200	U
Vinyl Chloride	U	0.0200		U	0.0200	U	0.0200	U
1,3-Butadiene	U	0.0200		U	0.0200	U	0.0200	U
Bromomethane	U	0.0200		U	0.0200	0.510	0.0200	0.172
Chloroethane	U	0.0200		U	0.0200	U	0.0200	U
Acetone	U	0.500		U	0.500	3.63	0.500	47.4
Trichlorofluoromethane	U	0.0200		U	0.0200	0.230	0.0200	0.218
Isopropyl Alcohol	U	0.500		U	0.500	U	0.500	6.79
1,1-Dichloroethene	U	0.0200		U	0.0200	U	0.0200	U
Methylene Chloride	U	0.0200		U	0.0200	0.0514	0.0200	0.622
Trichlorotrifluoroethane	U	0.0200		U	0.0200	0.0857	0.0200	U
trans-1,2-Dichloroethene	U	0.0200		U	0.0200	U	0.0200	U
1,1-Dichloroethane	U	0.0200		U	0.0200	U	0.0200	U
MTBE	U	0.0200		U	0.0200	U	0.0200	U
Vinyl Acetate	U	0.0200		U	0.0200	U	0.0200	U
2-Butanone	U	0.0200		U	0.0200	0.212	0.0200	88.5
cis-1,2-Dichloroethene	U	0.0200		U	0.0200	U	0.0200	U
Ethyl Acetate	U	0.0200	0.0202	0.0200	U	0.0200	0.0200	0.843
Hexane	U	0.0200		U	0.0200	3.05	0.0200	0.969
Chloroform	U	0.0200		U	0.0200	U	0.0200	0.426
Tetrahydrofuran	U	0.0200		U	0.0200	0.0684	0.0200	13.2
1,2-Dichloroethane	U	0.0200		U	0.0200	U	0.0200	2.67
1,1,1-Trichloroethane	U	0.0200		U	0.0200	U	0.0200	U
Benzene	U	0.0200		U	0.0200	0.109	0.0200	0.800
Carbon Tetrachloride	U	0.0200		U	0.0200	0.0825	0.0200	0.114
Cyclohexane	U	0.0200		U	0.0200	U	0.0200	0.290
1,2-Dichloropropane	U	0.0200		U	0.0200	U	0.0200	U
1,4-Dioxane	U	0.0200		U	0.0200	U	0.0200	U
Trichloroethene	U	0.0200		U	0.0200	U	0.0200	0.168
Heptane	U	0.0200		U	0.0200	0.0228	0.0200	0.267
cis-1,3-Dichloropropene	U	0.0200		U	0.0200	U	0.0200	U
Methyl Isobutyl Ketone	U	0.0200		U	0.0200	U	0.0200	1.17
trans-1,3-Dichloropropene	U	0.0200		U	0.0200	U	0.0200	U
1,1,2-Trichloroethane	U	0.0200		U	0.0200	U	0.0200	U
Toluene	U	0.0200	0.117	0.0200	U	0.190	U	8.09
2-Hexanone	U	0.0200		U	0.0200	U	0.0200	U
Dibromochloromethane	U	0.0200		U	0.0200	U	0.0200	0.198
1,2-Dibromoethane	U	0.0200		U	0.0200	U	0.0200	U
Tetrachloroethene	U	0.0200		U	0.0200	U	0.0200	U
Chlorobenzene	U	0.0200		U	0.0200	U	0.0200	U
Ethylbenzene	U	0.0200		U	0.0200	0.0281	0.0200	0.612
m&p-Xylene	U	0.0200		U	0.0200	0.0962	0.0200	2.13
Bromoform	U	0.0200		U	0.0200	U	0.0200	0.341
Styrene	U	0.0200		U	0.0200	U	0.0200	0.739
1,1,2,2-Tetrachloroethane	U	0.0200		U	0.0200	U	0.0200	U
o-Xylene	U	0.0200		U	0.0200	0.0443	0.0200	0.793
p-Ethyltoluene	U	0.0200		U	0.0200	U	0.0200	0.169
1,3,5-Trimethylbenzene	U	0.0200		U	0.0200	U	0.0200	0.161
1,2,4-Trimethylbenzene	U	0.0200		U	0.0200	0.0442	0.0200	0.669
1,3-Dichlorobenzene	U	0.0200		U	0.0200	U	0.0200	U
1,4-Dichlorobenzene	U	0.0200		U	0.0200	U	0.0200	U
1,2-Dichlorobenzene	U	0.0200		U	0.0200	U	0.0200	U
Naphthalene	U	0.0200		U	0.0200	0.0263	0.0200	0.149

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Table 1.1a (cont) Result of the Analysis for VOC (ppbv) in Air
 WA# SERAS-270, St. John Methyl Bromide Response

Method: SERAS SOP#1814

SERAS Sample Number	R504001-02		R504001-03		R504001-06		R504001-07	
Sample Number	55113		55114		55100		55100	
Sample Location	(J) Lower Kitchen		(J) Lower Utility Rm		"I" Lower		"I" Upper	
Analyte	Results ppbv	RL ppbv	Results ppbv	RL ppbv	Results ppbv	RL ppbv	Results ppbv	RL ppbv
Propylene	1.52	J 1.00	1.54	J 1.00	0.798	1.00	0.573	1.00
Dichlorodifluoromethane	0.335	J 0.100	0.346	J 0.100	0.528	0.100	0.589	0.100
Chloromethane	28.3	J 0.100	28.1	J 0.100	0.818	0.100	0.878	0.100
Dichlorotetrafluoroethane	U	0.100	U	0.100	U	0.100	U	0.100
Vinyl Chloride	U	0.100	U	0.100	U	0.100	U	0.100
1,3-Butadiene	U	0.100	U	0.100	U	0.100	U	0.100
Bromomethane	572	1.00	590	1.00	U	0.100	U	0.100
Chloroethane	U	0.100	U	0.100	U	0.100	U	0.100
Acetone	59.7	J 2.50	58.7	J 2.50	27.3	2.50	20.8	2.50
Trichlorofluoromethane	0.148	J 0.100	0.156	J 0.100	0.229	0.100	0.243	0.100
Isopropyl Alcohol	17.1	J 2.50	18.1	J 2.50	9.74	2.50	5.55	2.50
1,1-Dichloroethene	U	0.100	U	0.100	U	0.100	U	0.100
Methylene Chloride	U	0.100	U	0.100	U	0.100	U	0.100
Trichlorotrifluoroethane	U	0.100	U	0.100	U	0.100	U	0.100
trans-1,2-Dichloroethene	U	0.100	U	0.100	U	0.100	U	0.100
1,1-Dichloroethane	U	0.100	U	0.100	U	0.100	U	0.100
MTBE	U	0.100	U	0.100	U	0.100	U	0.100
Vinyl Acetate	U	0.100	U	0.100	U	0.100	0.167	0.100
2-Butanone	2.02	J 0.100	2.02	J 0.100	1.06	0.100	0.546	0.100
cis-1,2-Dichloroethene	U	0.100	U	0.100	U	0.100	U	0.100
Ethyl Acetate	U	0.100	U	0.100	U	0.100	0.453	0.100
Hexane	344	1.00	358	1.00	12.1	0.100	0.505	0.100
Chloroform	0.101	J 0.100	U	0.100	0.248	0.100	0.178	0.100
Tetrahydrofuran	1.76	J 0.100	1.94	J 0.100	0.776	0.100	U	0.100
1,2-Dichloroethane	3.02	J 0.100	3.05	J 0.100	5.16	0.100	0.843	0.100
1,1,1-Trichloroethane	U	0.100	U	0.100	U	0.100	U	0.100
Benzene	U	0.100	U	0.100	U	0.100	U	0.100
Carbon Tetrachloride	0.103	0.100	0.108	0.100	U	0.100	U	0.100
Cyclohexane	0.561	0.100	0.558	0.100	U	0.100	U	0.100
1,2-Dichloropropane	U	0.100	U	0.100	U	0.100	U	0.100
1,4-Dioxane	U	0.100	U	0.100	U	0.100	U	0.100
Trichloroethene	U	0.100	U	0.100	U	0.100	U	0.100
Heptane	0.156	0.100	0.153	0.100	U	0.100	U	0.100
cis-1,3-Dichloropropene	U	0.100	U	0.100	U	0.100	U	0.100
Methyl Isobutyl Ketone	U	0.100	U	0.100	U	0.100	U	0.100
trans-1,3-Dichloropropene	U	0.100	U	0.100	U	0.100	U	0.100
1,1,2-Trichloroethane	U	0.100	U	0.100	U	0.100	U	0.100
Toluene	0.917	0.100	0.911	0.100	1.66	0.100	0.693	0.100
2-Hexanone	U	0.100	U	0.100	U	0.100	U	0.100
Dibromochloromethane	U	0.100	U	0.100	U	0.100	U	0.100
1,2-Dibromoethane	U	0.100	U	0.100	U	0.100	U	0.100
Tetrachloroethene	U	0.100	U	0.100	U	0.100	U	0.100
Chlorobenzene	U	0.100	U	0.100	U	0.100	U	0.100
Ethylbenzene	0.383	0.100	0.416	0.100	0.177	0.100	U	0.100
m&p-Xylene	0.692	0.100	0.711	0.100	0.440	0.100	0.127	0.100
Bromoform	0.115	0.100	0.121	0.100	U	0.100	U	0.100
Styrene	2.13	0.100	2.02	0.100	0.617	0.100	0.303	0.100
1,1,2,2-Tetrachloroethane	U	0.100	U	0.100	U	0.100	U	0.100
o-Xylene	0.376	0.100	0.368	0.100	0.173	0.100	U	0.100
p-Ethyltoluene	U	0.100	U	0.100	U	0.100	U	0.100
1,3,5-Trimethylbenzene	U	0.100	U	0.100	U	0.100	U	0.100
1,2,4-Trimethylbenzene	0.354	0.100	0.355	0.100	U	0.100	U	0.100
1,3-Dichlorobenzene	U	0.100	U	0.100	U	0.100	U	0.100
1,4-Dichlorobenzene	U	0.100	U	0.100	U	0.100	U	0.100
1,2-Dichlorobenzene	U	0.100	U	0.100	U	0.100	U	0.100
Naphthalene	0.345	0.100	0.326	0.100	U	0.100	U	0.100

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Table 1.1b Result of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
 WA# SERAS-270, St. John Methyl Bromide Response

Method: SERAS SOP#1814

Analyte	N/A		R504001-04		R504001-01		R504001-05	
	Sample Number	PSMethod	0401115-03	55115	55112	Ambient	55116	
			N/A	TRIP		(A) Background		
Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$
Propylene	U	0.344	U	0.344	0.402	0.344	2.21	1.72
Dichlorodifluoromethane	U	0.0989	U	0.0989	1.59	0.0989	2.62	0.495
Chloromethane	U	0.0413	U	0.0413	1.60	0.0413	1.82	0.207
Dichlorotetrafluoroethane	U	0.140	U	0.140	U	0.140	U	0.699
Vinyl Chloride	U	0.0511	U	0.0511	U	0.0511	U	0.256
1,3-Butadiene	U	0.0442	U	0.0442	U	0.0442	U	0.221
Bromomethane	U	0.0777	U	0.0777	1.98	0.0777	0.667	0.388
Chloroethane	U	0.0528	U	0.0528	U	0.0528	U	0.264
Acetone	U	1.19	U	1.19	8.63	1.19	113	5.94
Trichlorofluoromethane	U	0.112	U	0.112	1.29	0.112	1.23	0.562
Isopropyl Alcohol	U	1.23	U	1.23	U	1.23	16.7	6.15
1,1-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.396
Methylene Chloride	U	0.0695	U	0.0695	0.179	0.0695	2.16	0.347
Trichlorotrifluoroethane	U	0.153	U	0.153	0.657	0.153	U	0.766
trans-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.396
1,1-Dichloroethane	U	0.0809	U	0.0809	U	0.0809	U	0.405
MTBE	U	0.0721	U	0.0721	U	0.0721	U	0.361
Vinyl Acetate	U	0.0704	U	0.0704	U	0.0704	U	0.352
2-Butanone	U	0.0590	U	0.0590	0.624	0.0590	261	0.295
cis-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.396
Ethyl Acetate	U	0.0721	0.0729	0.0721	U	0.0721	3.04	0.360
Hexane	U	0.0705	U	0.0705	10.7	0.0705	3.42	0.352
Chloroform	U	0.0977	U	0.0977	U	0.0977	2.08	0.488
Tetrahydrofuran	U	0.0590	U	0.0590	0.202	0.0590	39.0	0.295
1,2-Dichloroethane	U	0.0809	U	0.0809	U	0.0809	10.8	0.405
1,1,1-Trichloroethane	U	0.109	U	0.109	U	0.109	U	0.546
Benzene	U	0.0639	U	0.0639	0.349	0.0639	2.56	0.319
Carbon Tetrachloride	U	0.126	U	0.126	0.519	0.126	0.718	0.629
Cyclohexane	U	0.0688	U	0.0688	U	0.0688	0.997	0.344
1,2-Dichloropropane	U	0.0924	U	0.0924	U	0.0924	U	0.462
1,4-Dioxane	U	0.0721	U	0.0721	U	0.0721	U	0.360
Trichloroethene	U	0.107	U	0.107	U	0.107	0.901	0.537
Heptane	U	0.0820	U	0.0820	0.0934	0.0820	1.09	0.410
cis-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.454
Methyl Isobutyl Ketone	U	0.0819	U	0.0819	U	0.0819	4.80	0.410
trans-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.454
1,1,2-Trichloroethane	U	0.109	U	0.109	U	0.109	U	0.546
Toluene	U	0.0754	0.442	0.0754	U	0.714	30.5	0.377
2-Hexanone	U	0.0819	U	0.0819	U	0.0819	U	0.410
Dibromochloromethane	U	0.170	U	0.170	U	0.170	1.69	0.852
1,2-Dibromoethane	U	0.154	U	0.154	U	0.154	U	0.768
Tetrachloroethene	U	0.136	U	0.136	U	0.136	U	0.678
Chlorobenzene	U	0.0921	U	0.0921	U	0.0921	U	0.460
Ethylbenzene	U	0.0868	U	0.0868	0.122	0.0868	2.66	0.434
m,p-Xylene	U	0.0868	U	0.0868	0.418	0.0868	9.24	0.434
Bromoform	U	0.207	U	0.207	U	0.207	3.52	1.03
Styrene	U	0.0852	U	0.0852	U	0.0852	3.15	0.426
1,1,2,2-Tetrachloroethane	U	0.137	U	0.137	U	0.137	U	0.687
o-Xylene	U	0.0868	U	0.0868	0.192	0.0868	3.45	0.434
p-Ethyltoluene	U	0.0983	U	0.0983	U	0.0983	0.832	0.492
1,3,5-Trimethylbenzene	U	0.0983	U	0.0983	U	0.0983	0.790	0.492
1,2,4-Trimethylbenzene	U	0.0983	U	0.0983	0.217	0.0983	3.29	0.492
1,3-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.601
1,4-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.601
1,2-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.601
Naphthalene	U	0.105	U	0.105	0.138	0.105	0.780	0.524

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Table 1.1b (cont) Result of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
 WA# SERAS-270, St. John Methyl Bromide Response

Method: SERAS SOP#1814

Analyte	R504001-02		R504001-03		R504001-06		R504001-07	
	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$
Propylene	2.62	J 1.72	2.64	J 1.72	1.37	1.72	0.985	1.72
Dichlorodifluoromethane	1.66	J 0.495	1.71	J 0.495	2.61	0.495	2.91	0.495
Chloromethane	58.4	J 0.207	58.1	J 0.207	1.69	0.207	1.81	0.207
Dichlorotetrafluoroethane	U 0.699		U 0.699		U 0.699		U 0.699	
Vinyl Chloride	U 0.256		U 0.256		U 0.256		U 0.256	
1,3-Butadiene	U 0.221		U 0.221		U 0.221		U 0.221	
Bromomethane	2220	3.88	2290	3.88	U 0.388		U 0.388	
Chloroethane	U 0.264		U 0.264		U 0.264		U 0.264	
Acetone	142	J 5.94	139	J 5.94	64.9	5.94	49.4	5.94
Trichlorofluoromethane	0.832	J 0.562	0.878	J 0.562	1.29	0.562	1.37	0.562
Isopropyl Alcohol	42.0	J 6.15	44.5	J 6.15	23.9	6.15	13.7	6.15
1,1-Dichloroethene	U 0.396		U 0.396		U 0.396		U 0.396	
Methylene Chloride	U 0.347		U 0.347		U 0.347		U 0.347	
Trichlorotrifluoroethane	U 0.766		U 0.766		U 0.766		U 0.766	
trans-1,2-Dichloroethene	U 0.396		U 0.396		U 0.396		U 0.396	
1,1-Dichloroethane	U 0.405		U 0.405		U 0.405		U 0.405	
MTBE	U 0.361		U 0.361		U 0.361		U 0.361	
Vinyl Acetate	U 0.352		U 0.352		U 0.352		0.587	0.352
2-Butanone	5.97	J 0.295	5.96	J 0.295	3.13	0.295	1.61	0.295
cis-1,2-Dichloroethene	U 0.396		U 0.396		U 0.396		U 0.396	
Ethyl Acetate	U 0.360		U 0.360		U 0.360		1.63	0.360
Hexane	1210	3.52	1260	3.52	42.5	0.352	1.78	0.352
Chloroform	0.492	J 0.488	U 0.488		1.21	0.488	0.867	0.488
Tetrahydrofuran	5.18	J 0.295	5.72	J 0.295	2.29	0.295	U 0.295	
1,2-Dichloroethane	12.2	J 0.405	12.4	J 0.405	20.9	0.405	3.41	0.405
1,1,1-Trichloroethane	U 0.546		U 0.546		U 0.546		U 0.546	
Benzene	U 0.319		U 0.319		U 0.319		U 0.319	
Carbon Tetrachloride	0.646	0.629	0.678	0.629	U 0.629		U 0.629	
Cyclohexane	1.93	0.344	1.92	0.344	U 0.344		U 0.344	
1,2-Dichloropropane	U 0.462		U 0.462		U 0.462		U 0.462	
1,4-Dioxane	U 0.360		U 0.360		U 0.360		U 0.360	
Trichloroethene	U 0.537		U 0.537		U 0.537		U 0.537	
Heptane	0.640	0.410	0.629	0.410	U 0.410		U 0.410	
cis-1,3-Dichloropropene	U 0.454		U 0.454		U 0.454		U 0.454	
Methyl Isobutyl Ketone	U 0.410		U 0.410		U 0.410		U 0.410	
trans-1,3-Dichloropropene	U 0.454		U 0.454		U 0.454		U 0.454	
1,1,2-Trichloroethane	U 0.546		U 0.546		U 0.546		U 0.546	
Toluene	3.46	0.377	3.43	0.377	6.27	0.377	2.61	0.377
2-Hexanone	U 0.410		U 0.410		U 0.410		U 0.410	
Dibromochloromethane	U 0.852		U 0.852		U 0.852		U 0.852	
1,2-Dibromoethane	U 0.768		U 0.768		U 0.768		U 0.768	
Tetrachloroethene	U 0.678		U 0.678		U 0.678		U 0.678	
Chlorobenzene	U 0.460		U 0.460		U 0.460		U 0.460	
Ethylbenzene	1.66	0.434	1.81	0.434	0.767	0.434	U 0.434	
m&p-Xylene	3.00	0.434	3.09	0.434	1.91	0.434	0.552	0.434
Bromoform	1.19	1.03	1.25	1.03	U 1.03		U 1.03	
Styrene	9.08	0.426	8.61	0.426	2.63	0.426	1.29	0.426
1,1,2,2-Tetrachloroethane	U 0.687		U 0.687		U 0.687		U 0.687	
o-Xylene	1.63	0.434	1.60	0.434	0.751	0.434	U 0.434	
p-Ethyltoluene	U 0.492		U 0.492		U 0.492		U 0.492	
1,3,5-Trimethylbenzene	U 0.492		U 0.492		U 0.492		U 0.492	
1,2,4-Trimethylbenzene	1.74	0.492	1.74	0.492	U 0.492		U 0.492	
1,3-Dichlorobenzene	U 0.601		U 0.601		U 0.601		U 0.601	
1,4-Dichlorobenzene	U 0.601		U 0.601		U 0.601		U 0.601	
1,2-Dichlorobenzene	U 0.601		U 0.601		U 0.601		U 0.601	
Naphthalene	1.81	0.524	1.71	0.524	U 0.524		U 0.524	

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Table 1.3. Results of TICs for VOC in Air
 WA# SERAS-270, St. John Methyl Bromide Response

<u>Sample Number:</u>	<u>Location</u>	<u>Analyte</u>	<u>RT</u>	<u>Concentration*</u> (ppbv)
PSMethodBlank 040115-03			No non-targets were found	
55115	Trip	Pentane	5.69	0.112
		Unknown	7.00	0.0583
		Alkane	16.73	0.647
		Alkane	17.41	0.0542
		Unknown	18.21	0.0582
55112	Ambient	Acetaldehyde	4.20	0.104
		Cyclopropane, ethylidene	5.78	0.165
		3-methyl-Pentane	7.42	0.0966
		Cyclopentane, methyl	8.53	0.115
		Pentanal	9.74	0.115
		Hexanal	12.21	0.121
		n-heptanal	14.42	0.163
		Octanal	16.4	0.206
		Nonanal	18.2	0.576
55116	(A) Background	1,1-difluoroethane	3.82	3.96
		2-Methylpropane	4.20	10.7
		Butane	4.45	2.76
		Ethanol	4.91	55.1
		Cyclohexanone	14.3	11.1
		Alkane (C12H26)	16.7	49.5
		dl-Limonene	17.3	7.17
		Alkane	17.4	4.08
		Alkane	17.6	2.06
55113	(J) Lower Kitchen	Ethanol	4.89	0.287
		3-Methylpentane	7.43	0.526
		alpha Pinene	15.6	5.99
		dl-Limonene	17.3	2.87
55114	(J) Lower Utility Rm	Ethanol	4.89	0.291
		3-Methylpentane	7.43	0.526
		alpha Pinene	15.6	5.71
		dl-Limonene	17.3	2.60
55117	"I" Lower	Ethanol	4.88	11.4
		Unknown	9.13	0.965
		Hexanal	12.20	1.16
		alpha Pinene	15.60	2.35
		dl-Limonene	17.3	4.29
		Nonanal	18.2	0.963
55118	"I" Upper	Ethanol	4.88	26.2
		C5H8 Diene	5.78	1.60
		Alkene (C5H10)	7.01	1.72
		alpha Pinene	15.6	1.52
		dl-Limonene	17.3	1.82
		Nonanal	18.2	1.11

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Table 2.1 Results of the LCS Analysis for VOC in Air
 WA# SERAS-270, St. John Methyl Bromide Response

Sample ID: LCS 040115

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Propylene	1.00	1.20	120	73 - 148
Dichlorodifluoromethane	1.00	1.17	117	49 - 140
Chloromethane	1.00	1.27	127	72 - 146
Dichlorotetrafluoroethane	1.00	0.970	97	59 - 105
Vinyl Chloride	1.00	1.15	115	75 - 128
1,3-Butadiene	1.00	1.01	101	65 - 117
Bromomethane	1.00	1.26	126	72 - 139
Chloroethane	1.00	1.20	120	69 - 133
Acetone	1.00	1.39	139	71 - 151
Trichlorofluoromethane	1.00	1.19	119	62 - 129
Isopropyl Alcohol	1.00	1.19	119	64 - 166
1,1-Dichloroethene	1.00	1.08	108	73 - 120
Methylene Chloride	1.00	1.08	108	71 - 119
Trichlorotrifluoroethane	1.00	1.32	132	64 - 148
trans-1,2-Dichloroethene	1.00	1.05	105	74 - 117
1,1-Dichloroethane	1.00	1.09	109	76 - 117
MTBE	1.00	1.04	104	55 - 121
Vinyl Acetate	1.00	0.884	88	80 - 105
2-Butanone	1.00	1.12	112	75 - 122
cis-1,2-Dichloroethene	1.00	1.02	102	72 - 112
Ethyl Acetate	1.00	1.16	116	97 - 127
Hexane	1.00	1.04	104	77 - 115
Chloroform	1.00	1.12	112	76 - 121
Tetrahydrofuran	1.00	1.11	111	77 - 123
1,2-Dichloroethane	1.00	1.05	105	69 - 115
1,1,1-Trichloroethane	1.00	1.07	107	84 - 119
Benzene	1.00	0.995	100	82 - 113
Carbon Tetrachloride	1.00	1.10	110	78 - 119
Cyclohexane	1.00	1.05	105	85 - 115
1,2-Dichloropropane	1.00	0.999	100	83 - 120
1,4-Dioxane	1.00	0.930	93	53 - 179
Trichloroethene	1.00	1.14	114	79 - 122
Heptane	1.00	1.00	100	87 - 122
cis-1,3-Dichloropropene	1.00	1.09	109	93 - 121
Methyl Isobutyl Ketone	1.00	1.08	108	86 - 135
trans-1,3-Dichloropropene	1.00	0.992	99	85 - 112
1,1,2-Trichloroethane	1.00	1.20	120	63 - 137
Toluene	1.00	1.15	115	61 - 126
2-Hexanone	1.00	1.23	123	71 - 153
Dibromochloromethane	1.00	1.30	130	67 - 141
1,2-Dibromoethane	1.00	1.19	119	62 - 135
Tetrachloroethene	1.00	1.30	130	52 - 138
Chlorobenzene	1.00	1.19	119	59 - 131
Ethylbenzene	1.00	1.14	114	65 - 125
m&p-Xylene	2.00	2.23	112	63 - 126
Bromoform	1.00	1.27	127	62 - 138
Styrene	1.00	1.27	127	69 - 142
1,1,2,2-Tetrachloroethane	1.00	1.12	112	66 - 138
o-Xylene	1.00	1.15	115	70 - 133
p-Ethyltoluene	1.00	1.17	117	68 - 128
1,3,5-Trimethylbenzene	1.00	1.12	112	66 - 126
1,2,4-Trimethylbenzene	1.00	1.12	112	69 - 121
1,3-Dichlorobenzene	1.00	1.32	132	63 - 146
1,4-Dichlorobenzene	1.00	1.31	131	65 - 147
1,2-Dichlorobenzene	1.00	1.20	120	58 - 132
Naphthalene	1.00	1.36	136	58 - 155

*Indicates out of the criteria

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Table 2.2 Results of the Duplicate Analysis for VOC in Air
 WA# SERAS-270, St. John Methyl Bromide Response

Sample ID: 55118

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Propylene	0.573	0.596	4	≤25
Dichlorodifluoromethane	0.589	0.554	6	≤25
Chloromethane	0.878	0.827	6	≤25
Dichlorotetrafluoroethane	U	U	NC	≤25
Vinyl Chloride	U	U	NC	≤25
1,3-Butadiene	U	U	NC	≤25
Bromomethane	U	U	NC	≤25
Chloroethane	U	U	NC	≤25
Acetone	20.8	20.5	1	≤25
Trichlorofluoromethane	0.243	0.246	1	≤25
Isopropyl Alcohol	5.55	5.37	3	≤25
1,1-Dichloroethene	U	U	NC	≤25
Methylene Chloride	U	U	NC	≤25
Trichlorotrifluoroethane	U	U	NC	≤25
trans-1,2-Dichloroethene	U	U	NC	≤25
1,1-Dichloroethane	U	U	NC	≤25
MTBE	U	U	NC	≤25
Vinyl Acetate	0.167	0.131	24	≤25
2-Butanone	0.546	0.477	13	≤25
cis-1,2-Dichloroethene	U	U	NC	≤25
Ethyl Acetate	0.453	0.456	0.7	≤25
Hexane	0.505	0.496	2	≤25
Chloroform	0.178	0.188	5	≤25
Tetrahydrofuran	U	0.166	NC	≤25
1,2-Dichloroethane	0.843	0.823	2	≤25
1,1,1-Trichloroethane	U	U	NC	≤25
Benzene	U	U	NC	≤25
Carbon Tetrachloride	U	U	NC	≤25
Cyclohexane	U	U	NC	≤25
1,2-Dichloropropane	U	U	NC	≤25
1,4-Dioxane	U	U	NC	≤25
Trichloroethene	U	U	NC	≤25
Heptane	U	U	NC	≤25
cis-1,3-Dichloropropene	U	U	NC	≤25
Methyl Isobutyl Ketone	U	U	NC	≤25
trans-1,3-Dichloropropene	U	U	NC	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Toluene	0.693	0.672	3	≤25
2-Hexanone	U	U	NC	≤25
Dibromochloromethane	U	U	NC	≤25
1,2-Dibromoethane	U	U	NC	≤25
Tetrachloroethene	U	U	NC	≤25
Chlorobenzene	U	U	NC	≤25
Ethylbenzene	U	U	NC	≤25
m&p-Xylene	0.127	U	NC	≤25
Bromoform	U	U	NC	≤25
Styrene	0.303	0.299	1	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25
o-Xylene	U	U	NC	≤25
p-Ethyltoluene	U	U	NC	≤25
1,3,5-Trimethylbenzene	U	U	NC	≤25
1,2,4-Trimethylbenzene	U	U	NC	≤25
1,3-Dichlorobenzene	U	U	NC	≤25
1,4-Dichlorobenzene	U	U	NC	≤25
1,2-Dichlorobenzene	U	U	NC	≤25
Naphthalene	U	U	NC	≤25

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REAC, Edison, NJ (732) 321-4200
EPA Contract 68-C99-223

CHAIN OF CUSTODY

Project Name: 56-001
Project Number: 56-001
LM Contact: Salinski / Dubois Phone: x 4283
(609-865-9304)

No: 06833
Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

WO#R504001

Sample Identification

Matrix

A- Air
AT-Animal Tissue
DL- Drum Liquids
DS- Drum Solids
GW- Groundwater
O- Oil
PR-Product
PT-Plant Tissue

PW- Potable Water
 S- Soil
 SD- Sediment
 SL- Sludge
 SW- Surface Water
 TX-TCLP Extract
 W- Water
 X- Other

Special Instructions:

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

R2 SirenUSA CNN Prim00111 009

REAC, Edison, NJ
(732) 321-4200
EPA Contract 68-C99-223

CHAIN OF CUSTODY

Project Name: 56-001
Project Number: 56-001
LM Contact: Dan Bors Phone: 509-815-9384

No: 06834
Sheet 01 of 01(Do not copy)
(for addnl. samples use new form)

W0#R504001

Sample Identification

REACH	Sample No	Sampling Location	Matrix	Date Collected	Standard	# of Bottles	Container/Preservative	Time	Volume	TD-15
03	SS114	Lower Utility Rm	A	3/27/15		1	6-L Summa/none	1600	6(L)	✓
04	SS115	TRIP	↓	↓		1	6-L Summa/none	1630	6(L)	✓

Matrix:

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

A- Air
AT-Animal Tissue
DL- Drum Liquids
DS- Drum Solids
GW- Groundwater
O- Oil
PR-Product
PT-Plant Tissue

PW- Potable Water
S- Soil
SD- Sediment
SL- Sludge
SW- Surface Water
TX-TCLP Extract
W- Water
X- Other

Analyze for D-15

EE1110 = Summary ID 14235

55115 = " " 14066

R2 SirenUSA CNN Prim00111 010

REAC, Edison, NJ
732) 321-4200
EPA Contract 68-C99-223

CHAIN OF CUSTODY

Project Name: 56-001
Project Number: 56-001
LM Contact: Solinsky Phone: X 4283
Dubois

No: 06835
Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

NO#R504001

Sample Identification

Analyses Requested

REACH#	Sample No	Sampling Location	Matrix	Date Collected	# of Bottles	Scum	Container/Preservative	Time	Volume	T0-15
05	55116	Background	A	3/28/15	1	6-Lsumma/none	1345	(6L)	✓	
06	55117	"I" lower	↓	↓	1	6-Lsumma/none	1352	6(L)	✓	

Matrix:

A- Air
AT-Animal Tissue
DL- Drum Liquids
DS- Drum Solids
GW- Groundwater
O- Oil
PR-Product
PT-Plant Tissue

PW- Potable Water
 S- Soil
 SD- Sediment
 SL- Sludge
 SW- Surface Water
 TX-TCLP Extract
 W- Water
 X- Other

Special Instructions:

Analyze for ~~B₁₀~~ T0-15
55116 = Summa ID 14075
55117 = " " 14255

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

R2 SirenUSA CNN Prim00111 011

REAC, Edison, NJ
(732) 321-4200
EPA Contract 68-C99-223

CHAIN OF CUSTODY

Project Name: 56-001
Project Number: 56-001
LM Contact: S. M. S. Phone: x4283
M. B. O. S.

No: 06828
Sheet 01 of 01(Do not copy)
(for addnl. samples use new form)

W#R504001

Sample Identification

Motofus

Matrix:
 A- Air
 AT-Animal Tissue
 DL- Drum Liquids
 DS- Drum Solids
 GW- Groundwater
 O- Oil
 PR-Product
 PT-Plant Tissue

PW - Potable Water
S - Soil
SD - Sediment
SL - Sludge
SW - Surface Water
TX-TCLP Extract
W - Water
X - Other

Special Instructions:

Analyze by TO-15

55118 = SummaID 14236

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

R2_SirenUSA_CNN_Prim00111_012